International Journal of Research in Mathematics Education
Vol. 1 No. 1, July 2023, 1-12
Universitas Islam Negeri Prof. K.H. Saifuddin Zuhri Purwokerto
e-ISSN: 3025-7638, p-ISSN: 3025-1842

The Integration of Ethnomathematics at Masjid Al Mahdi in Discovery Learning-Based Textbook on Students' Reasoning Ability

Adi Satrio Ardiansyah[1]✉, Yudhi Wahyu Adi[1], Fakhrur Rini Choirunnisa[1], Deva Fitria Wardani[1], Fatkhiya An-Nisa Raharani[1]

[1]*Universitas Negeri Semarang, Semarang, Indonesia*

✉ *Corresponding email:* adisatrio@mail.unnes.ac.id

Received February 25, 2023
Accepted May 24, 2023
Published July 31, 2023

https://doi.org/10.24090/ijrme.v1i1.7865

Abstract: Presenting meaningfulness in the process of learning mathematics is something that must be prioritized to achieve the goals of learning mathematics. However, the fact states that students' mathematical skills (especially mathematical reasoning) are still low. One alternative that can be done is through Ethnomathematics integration and the implementation of the Discovery Learning model. Developing Discovery Learning-Based Textbook with Ethnomathematics nuances at the Masjid Al Mahdi Magelang on students' reasoning abilities is the aim of this research. Research and development with a modified 4D into a 3D model consisting of Define, Design, and Develop has been carried out well. The feasibility validation form, readability form, and student questionnaire form were analyzed descriptively and quantitatively to collect the data. From the results, it was obtained the results of the feasibility validation of the textbook with a percentage of 89.40%, the results of the assessment of the readability of the textbook with a percentage of 89%, and the results of students' responses to the textbook with a percentage of 86.66%. Overall, the textbook with ethnomathematics nuances at the Masjid Al Mahdi Magelang is feasible and easy to understand. It is ready to be implemented in learning mathematics in 8th grade.

Keywords: Discovery Learning; Ethnomathematics; Reasoning Ability; Textbook.

A. Introduction

Indonesia is a nation that has thousands of wealth spread from Sabang to Merauke, with a lot of cultures that are owned, namely in the form of customs, musical instruments, regional clothing, regional songs, and so on. According to Koentjaraningrat (2009), culture is the entire system of ideas, actions, and human works in the context of community life made human by learning. Culture-based learning is a learning approach model that prioritizes the activities of students with various cultural backgrounds and integrates them into the learning process of specific fields of study and the assessment of learning outcomes (Fahrurrozi, 2015). Education is one of the discussions that will continue. This is based on the fact that education is essential in building a country.

Educational programs for learning in schools are influenced by several factors, including students, curriculum, costs, academic staff, facilities and infrastructure, and environmental factors. If these factors are met, then the learning process runs smoothly. Furthermore, learning mathematics focuses on developing how to think and work mathematically so as to develop

students' mathematical abilities (Zevenbergen, Dole, & Wright, 2004; Suherman, 2003; Hudojo, 2003; Junaedi & Asikim 2012).

Mathematical abilities for students have a vital role in providing knowledge skills and forming attitudes and mindsets to preserve and develop the role of mathematics itself (Darwanto, 2019). One of the essential parts of mathematics is a flat shape or, more fully, a quadrilateral. Mathematical reasoning is the foundation for obtaining or constructing mathematical knowledge. According to Putri, Sulianto & Azizah (2019), mathematical reasoning is a necessary and essential ability for students. The importance of having mathematical reasoning abilities in students is basically in line with the vision of mathematics, especially to meet future needs.

Unfortunately, students mathematical reasoning in Indonesia are still low. The results of PISA stated that around 71% of Indonesian students do not reach the minimum competency level of math (Pusat Penilaian Pendidikan Balitbang Kemendikbud, 2019). It's mean that there are still many Indonesian students who have difficulty dealing with situations that require mathematical reasoning skills.

Reasoning ability is one of the abilities to be achieved through the Discovery Learning model. The Discovery Learning Model is one of the learning models where the teacher does not provide the final results or conclusions from the material presented; instead, the teacher allows students to search for and find the results of the data so that the learning process is more meaningful and easy to remember by students and learning outcomes what is obtained is not easily forgotten (Prasasty & Utaminingtyas, 2020).

Textbooks are material/subject matter that is arranged systematically and used by teachers and students to achieve the expected goals. The development of textbooks can be used as an alternative solution to overcome students' difficulties in solving mathematical problems. Developed textbooks need to contain processes and strategies that make solving math problems easier (Siniguian, 2017). This textbook was developed with an ethnomathematics approach to building the Masjid Al-Mahdi Magelang and quadrilateral material. Ethnomathematics is a mathematics learning using an approach to culture.

Ethnomathematics is also a particular method related to culture in mathematical activity (Rahmawati & Muchlian, 2019). The Masjid Al Mahdi is a Magelang City building closely related to ethnomathematics. In this Masjid Al Mahdi, some buildings are quadrilateral in shape, which are mathematics subject matter. The Masjid Al Mahdi is a place of worship for Muslim residents around the mosque. The forms in the mosque can be used as an ideas for learning mathematics.

Learning mathematics regarding the forms in the Masjid Al Mahdi building can be carried out in teaching and learning activities. It can be carried out as a reference to the material. Mathematics learning also becomes more interesting by utilizing the Masjid Al Mahdi building. With this ethnomathematics textbook, it is hoped that it will be easier for teachers to carry out learning and students will be more assisted in learning mathematics and easy to understand the material explained.

Some researchers have done several research about the integration of ethnomathematics in geometry. Massarwe, Verner, & Bshouty (2010) integrated some ornaments as an ethnomathematics exercise in a geometry class, including the quadrilateral material. Pramudita & Rosnawati (2019) find that Javanese culture ethnomathematics like Batik and Joglo are

related to quadrilateral material. Furthermore, Wulandari, et al. (2022) have been developed an elementary triangle and quadrilateral mini book based on the ethnomathematics of Candi Gedong Songo. This development is used as a reference of this study.

Based on this problem, this study aimed to develop a textbook based on Discovery Learning with ethnomathematics nuances at the Masjid Al Mahdi Magelang on students' reasoning abilities to assist students in learning mathematics on quadrilateral material. The developed textbook is expected to improve students' mathematical reasoning abilities.

B. Methods

Research and development are carried out to develop products using a 4D model that is modified into 3D, consisting of Define, Design, and Develop stages. The define stage includes an integrated activity to indentify the characteristics of textbook. In the design stage, the prototype of the textbook was develop. The develop stage ensures the textbook is feasible, easy to understand, and it has a good response from students. Furthermore, this activity is presented in the Figure 1.

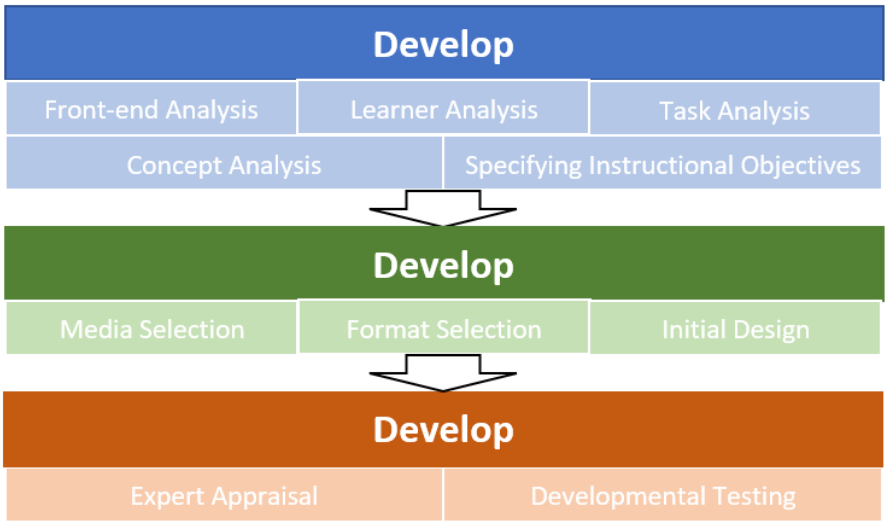

Figure 1. 3D stages for Developing Textbook

This research involved students which is around the Masjid Al Mahdi, Magelang. Some practitioners are also involved in this research. This is done to obtain valid and relevant data related to textbook development.

Several forms were used in research, such as the feasibility assessment form, the readability assessment form, and student response questionnaires as data collection techniques. Experts and practitioners carry out feasiblity assessments. Several students who have studied this material carried out the readability assessment and several students were studying the material responses for the student responses. The Likert scale assesses feasibility, while the Guttman scale assesses readability and student responses.

The data collection results were then analyzed to obtain a percentage score for each assessment. The results of the percentage scores are then represented based on several criteria presented in Table 1. The product is feasible, easy to understand, and has good student responses if the minimum percentage score is 85%.

Table 1. Score Percetage Categorization

Interval Percentage	Category
$85\% < x \leq 100\%$	Very Good
$70\% < x \leq 85\%$	Good
$60\% < x \leq 70\%$	Acceptable
$50\% < x \leq 60\%$	Not good
$0\% < x \leq 50\%$	Very not good

C. Results and Discussion

Research and development have been carried out using a 3D model of Define, Design, and Develop to obtain a textbook ready to be implemented in classroom learning for quadrilateral material for class VII junior high school students. This textbook is expected to be an additional reference for teachers in providing quadrilateral material. The 3D activity has been well executed for each sub-activity. The following is a description of each activity and sub-activity.

1. Define Stage

The Define stage aims to determine and define the requirements needed in learning by analyzing the objectives and limitations of the material developed in the textbook. According to Thiagarajan, Semmel, & Semmel (1974), in the Define stage, there are five main points, namely (a) front-end analysis, (b) student analysis, (c) concept analysis, (d) task analysis, and (e) formulation of learning objectives.

Front-end analysis was carried out to observe and find information about the problems experienced by learning mathematics, so it is necessary to develop this textbook (Thiagarajan, Semmel, & Semmel, 1974). In this research, efforts were made to improve the quality of student learning outcomes with learning activities using an ethnomathematics-based textbook at the Masjid Al Mahdi Magelang on quadrilateral material.

The next activity is student analysis, which is carried out by observation to determine student characteristics, which include students' initial abilities and obstacles experienced by students in learning mathematics. The results of the observation activities were that class VII students still had difficulty understanding quadrilateral material. These difficulties are in line with Darlia, La Arapu, & Rosdiana's findings (2016) where students experience learning disorders, learning disabilities, learning dysfunction, low achievement and slow learning. This is also the basis for choosing the suitable learning model to overcome student difficulties. This textbook will use the Discovery Learning Model as a learning model. Discovery Learning is a learning model in which students are expected to understand the origin or concept of the material being taught. In addition, student analysis activities were also carried out by interviewing one of the students about the relationship between the Masjid Al Mahdi building and learning mathematics on quadrilateral material. The results obtained in an interview with

one of the students were that students did not know the relation between mosque buildings and learning mathematics.

Concept analysis is carried out to find out the main concepts taught in the material that will be developed in a textbook. This activity was carried out by collecting learning resources from the Buku Pegangan Siswa Kurikulum 2013 and Student Worksheets. This activity was carried out through literature reviews and field studies regarding the building of the Masjid Al Mahdi Magelang. Figure 1 shows the mosque building related to quadrilateral material. Figure 2 (a) and 2 (b) (which are marked in red) show buildings that are similar to the flat shapes studied in mathematics, namely trapezoids and rectangles. In addition to these buildings, there are still several buildings with square, rhombus, and parallelogram shapes.

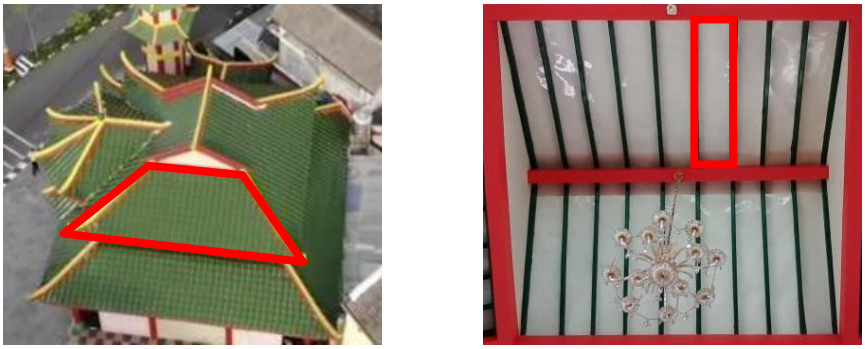

Figure 2. (a) The Roof form Outside, (b) The Roof form Inside

The next activity is task analysis, which identifies skills or abilities that researchers will study. The abilities that will be displayed in this textbook are students' reasoning abilities. The last activity in the defining stage is the formulation of learning objectives adjusted to indicators of competency achievement. The formulation of objectives is based on the results of the analysis of concepts and assignments, which then become the basis for compiling and designing a textbook that is then integrated into the material that has been determined in the development of the textbook. The formulation of learning objectives is based on the basic competencies and indicators of achievement of predetermined competencies. The following results are obtained related to basic competencies and competency achievement indicators.

Table 2. Basic Competencies and Competency Achievement Indicators

Basic Competencies	Competency Achievement Indicators
3.11 Associating the perimeter and area formulas for various types of quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid, and kite), and triangles.	3.11.1 Identify the different types of quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid, and kite). 3.11.2 Finding the area of a quadrilateral (square, rectangle, rhombus, parallelogram, trapezoid, and kite).
4.11 Solving contextual problems related to areas and perimeters and quadrilaterals (squares, rectangles, rhombuses, parallelograms, trapezoids, and kites), and triangles.	4.11.1 Solve contextual problems related to the perimeter of quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid, and kite). 4.11.2 Solving contextual problems related to the area of quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid, and kite).

2. Design Stage

The second stage in developing this product is to design a textbook with an Ethnomathematics nuance by the Discovery Learning Model that can be created using students' reasoning abilities. At this stage, several steps are taken, namely, making a textbook cover design, making a design for instructions to use textbooks and explanations of learning models, making designs and contents of motivational pages, and making an arrangement of textbook material. The follow-up to the results of the study report on cultural exploration in the surrounding environment that contributes to learning mathematics was compiled into an initial design of a textbook (draft 1). Figure 3 shows the initial design of the textbook with ethnomathematics nuances.

Figure 3. (a) Textbook Cover, (b) Quadrilateral Materials, (c) Competence Tests

3. Develop Stage

At this stage, several sub-activities are carried out. Feasibility validation is the first sub-activity through assessments from experts and practitioners. Several students carried out readability assessments as the second sub-activity. Student responses are carried out as the last sub-activity to ascertain how students respond to the product being developed.

There is feasibility validation to ensure the textbook is feasible to be implemented in learning mathematics. The results of the validation of the textbook that has been carried out are as follows. Experts and practitioners have carried out the validation. The textbook's feasibility validation was carried out based on three aspects, namely the content feasibility aspect, the presentation feasibility aspect, and the linguistic aspect. In the aspect of content feasibility, there are four assessment indicators, namely (1) the suitability of the material with basic competencies, indicators of achievement of competencies, and learning objectives, (2) the accuracy of the material, (3) supporting learning materials, (4) updating of the material. In the aspect of presentation feasibility, there are four assessment indicators, namely (1) presentation technique, (2) presentation support, (3) learning presentation, and (4) presentation completeness. In the linguistic aspect, there are six assessment indicators, namely (1) straightforward, (2) commutative, (3) dialogic and interactive, (4) conformity with the level of student development, (5) coherence and integration of thought flow, (6) use of terms, symbols

or icon. Based on the feasibility validation by experts and practitioners, the textbook's feasibility validation results are presented in Tables 3 and 4.

Table 3. Expert Validation Results

Aspect Assessed	Max	P01	P02	P03	Criteria
Content Feasibility	104	102	86	97	Very Good
Presentation Feasibility	60	59	50	58	
Linguistic	56	44	44	53	
Final Score (%)	100	93.18	81.82	94	
Mean		89.66			

Table 4. Practitioner Validation Results

Aspect Assessed	Max	P01	P02	P03	Criteria
Content Feasibility	104	99	80	99	Very Good
Presentation Feasibility	60	59	45	58	
Linguistic	56	52	42	56	
Final Score (%)	100	95.45	75.90	96.81	
Mean		89.38			

Based on these results, the validation scores for each expert were 93.18%, 81.82%, and 94%, with an average of 89.66%. These results are included in the criteria for a very feasible textbook. Furthermore, the validation scores for each practitioner were 95.45%, 75.90%, and 96.81%, with an average of 89.38%. These results are included in the criteria of a very feasible textbook. If the average final score of expert and practitioner validation is obtained, a final score of 89.52% is obtained with a textbook in the very feasible category. These results indicate that the textbook based on ethnomathematics at the Masjid Al Mahdi Magelang on quadrilateral material is ready to be implemented in the classroom.

Before being implemented in the class, the textbook must be tested for development. This is done to get input or suggestions so that consistent and effective textbooks can be used in classroom learning. This trial was aimed at three grade VII junior high school students as textbook targets. Previously, five students of the mathematics education study program carried out a readability test. In validating the readability assessment of textbook carried out by students, there are ten assessment points, namely (1) the textbook uses language (vocabulary, sentences, paragraphs, and discourse that is easy to understand), (2) the form of writing and the font size used is transparent, so that makes it easy to read a textbook, (3) the width of the spacing used makes it easy to read a textbook, (4) there are no writing errors in a textbook, (5) the graphical aspects used in a textbook is interesting, (6) the presentation of a textbook is interesting according to with the material and age of the readers (students), (7) the textbook uses an exciting writing style, (8) the density of ideas and information contained in the reading (length of short sentences) is easy to understand, (9) the textbook already uses standard Indonesian grammar, (10) the systematic presentation of material on textbook facilitates understanding of the reader. Based on legibility validation by students and textbook responses by students, the analysis results are presented in Table 5. Based on these results, the average final readability test score was 89% with easy-to-understand textbook representations. These results indicate that the ethnomathematics-based textbook at the Masjid Al Mahdi Magelang on quadrilateral material is easy to understand in terms of readability.

Table 5. Readability Validation Results

Aspect Assessed	Max	P01	P02	P03	P04	P05	Criteria
Score	40	39	32	35	38	34	Very Good
Final Score (%)	100	97.5	80	87.5	95	85	
Mean				89			

The last sub-activity is assessing student responses. Student responses need to be considered to ensure their learning needs. The results of the assessment of student responses are presented in Table 6. Based on these results, the average final score of student responses to the textbook was 86.66%. From the responses written by students, overall, the textbook is easy for students to understand. However, there is still something that needs to be improved in the color composition to clarify the writing in the textbook.

Table 6. Student Respone Quetionnaire Results

Evaluator	Score	Final Score (%)	Student's Respone
S01	15	75	There are color compositions that do not match, causing the writing to not be seen clearly, it is better to pay attention to the color composition of textbook
S02	17	85	The textbook are good and the material is also easy for me to understand.
S03	20	100	The textbook are easy for me to understand
Mean	17.33	86.66	

Research in the form of developing an ethnomathematics-based textbook through the building of the Masjid Al Mahdi Magelang on quadrilateral material is a solution to students' reasoning ability. Students' difficulty in solving contextual problems is the right solution in developing this textbook because this textbook provides contextual problems with problem-solving that is easy for students to understand.

The development of this textbook goes through three stages, namely the define stage, the design stage, and the develop stage. There are five stages in the define stage: front-end analysis, student analysis, concept analysis, task analysis, and formulation of learning objectives. The design stage, which includes making the cover design for the textbook, designing instructions for using the textbook and explaining learning models, making designs and contents of motivational pages, and making textbook material arrangements, is a follow-up to the definition stage so that an initial design of ethnomathematics-based textbook is made. Ready to be tested. The final stage of this research is the development stage which includes validation of feasibility by experts and practitioners with revisions, validation of readability by students with corrections, and validation of student responses with corrections.

The validation study of the textbook feasibility test provides certainty about the quality of the textbook being developed. The aspects of content feasibility, presentation feasibility, and language that have been validated and given an assessment provide certainty that the textbook is feasible to implement. In addition, students' validation of the readability test provides certainty for textbooks developed in the easy-to-understand textbook category. These results mean that the textbook is ready to be implemented in classroom learning.

However, from the textbook, there are still deficiencies, including (a) the questions that are developed are not open ended¸ (b) the quadrilateral material presented does not cover everything, only covers parallelograms, rectangles, squares, rhombuses, and trapezoids, (c) the material presented is only the perimeter and area of the rectangle. However, with these results, textbooks with ethnomathematics nuances at the Masjid Al Mahdi Magelang are feasible to implement in learning mathematics for class VII. From the results of the feasibility validation with the suggestions and input provided, the textbook was perfected, and a final draft was produced and ready to be implemented in class. In addition, textbooks with ethnomathematics nuances at the Masjid Al Mahdi Magelang are prepared to be used as learning tools that are easy to use and easily understood by students, with the hope of being able to improve learning outcomes and students' reasoning abilities and textbook with ethnomathematics nuances at the Masjid Al Mahdi Magelang are ready to be used by students in math learning. This finding is in line with what was conveyed by Helaluddin (2018) which mentions the theory of essentialism related to culture-based education, which in this study is referred to as Ethnomatematics.

Student responses to the questionnaire results were very positive, and students were interested in using the textbook to learn mathematics. Based on the validation results of the assessment of the feasibility of the textbook, the assessment of the readability of the textbook, and students' responses to the textbook, it was found that the textbook was in the very good and easy-to-understand category. Hence, they were ready to be implemented in mathematics learning for 8th grade. With the excellent validity and readability of this textbook, it will undoubtedly help students understand quadrilateral material in which students are also required to improve their reasoning abilities supported by examples and questions in the category of reasoning ability questions. This textbook was developed using the Discovery Learning Model for students' reasoning abilities. The application of the Discovery Learning Model will undoubtedly help students improve their reasoning abilities because this model requires students to understand the concept from the start, with the discovery process carried out directly by the students themselves (Burais, Ikhsan, & Duskri, 2016).

Ethnomathematics is a field that studies how people from different cultures understand, pronounce and use concepts from their culture related to mathematics so that in mathematics, it can be learned how to understand, express, and use cultural concepts that are described mathematically (Hariastuti, 2017). It is noted that Ethnomatematics integration can achieve student learning success (Suwito & Trapsilasiwi, 2016; Ferdianto & Setiyani, 2018). The development of a textbook with an ethnomathematics nuance does carry not only mathematics education but also a culture that will make the teaching and learning process more meaningful because students not only receive mathematics material but also get to know the local culture that exists around the students' environment (Nelawati et al., 2018). Several successes of textbooks with Ethnomatematics nuances have been recorded for achieving the goals of learning mathematics among students, including among students' reasoning abilities. (Ayuningtyas & Setiana, 2019; Ramadhani & Dewi, 2022). This follows the textbook the researchers developed, in which students' reasoning abilities are expected to increase with this nuanced Ethnomathematics textbook. The ethnomathematics-based mathematics module using the Discovery Learning Model will help students more easily understand the material presented and can engage students in discovery activities, learning that is interesting and fun, and invites

students to think critically and actively (Fitriyah, Santoso, & Suryadinata, 2018; Sartika & Makmur, 2020). As with textbooks developed by researchers, by applying the Discovery Learning Model, it is hoped that students will more easily understand quadrilateral material, and student learning outcomes can increase.

D. Conclusion

Based on the research, it was determined that the developed textbook was feasible to implement in mathematics learning. It was shown from the results of the feasibility assessment of the textbook, which received a percentage of 89.40%, and an assessment of readability which received a percentage of 89%. From the results of the feasibility and readability assessment of the textbook, it is hoped that it will make it easier for students to understand the material contained in the textbook. In addition to this assessment, the developed textbook has received a response from students with a percentage obtained of 86.66%, so from the results of the student's response, it can be interpreted that the textbook has an appeal for students. Overall, the textbook with ethnomathematics nuances at the Masjid Al Mahdi Magelang is ready to be implemented in learning mathematics in class VII. Therefore, it is hoped that the development of another textbook at the Masjid Al Mahdi Magelang can be arranged to cover all quadrilateral material.

References

Ayuningtyas, A. D. & Setiana, D. S., (2019). Pengembangan Bahan Ajar Matematika Berbasis Etnomatematika Kraton Yogyakarta. *AKSIOMA (Jurnal Program Studi Pendidikan Matematika),* 8(1), 11-19.

Burais, L., Ikhsan, M., & Duskri, M. (2016). Peningkatan kemampuan penalaran matematis siswa melalui model discovery learning. *Jurnal Didaktik Matematika,* 3(1), 77-86.

Darlia, La Arapu. & Rosdiana, (2016). Deskripsi Kesulitan Belajar dalam Menyelesaikan Soal-Soal Matematika Materi Pokok Keliling dan Luas Segiempat di Kelas VII SMP Negeri 6 Kendari. *Jurnal Penelitian Pendidikan Matematika,* 4(1), 29-41

Darwanto, D., (2019). Hard Skills Matematik Siswa. *Eksponen*, 9(1), 21-27.

Fahrurrozi, M. (2015). *Pembelajaran Berbasis Budaya: Model Inovasi Pembelajaran dan Implementasi Kurikulum Berbasis Kompetensi*. Malang: Surya Pena Gemilang.

Ferdianto, F., & Setiyani, S. (2018). Pengembangan bahan ajar media pembelajaran berbasis kearifan lokal mahasiswa pendidikan matematika. *JNPM (Jurnal Nasional Pendidikan Matematika)*, 2(1), 37-47.

Fitriyah, D. N., Santoso, H., & Suryadinata, N. (2018). Bahan ajar transformasi geometri berbasis discovery learning melalui pendekatan etnomatematika. *Jurnal elemen*, 4(2), 145-158.

Hariastuti, (2017). Permainan tebak-tebak buah manggis: Sebuah inovasi pembelajaran matematika berbasis etnomatematika. *Jurnal Matematika dan Pendidikan Matematika,* pp. 25-35.

Helaluddin, (2018). Restrukturisasi Pendidikan Berbasis Budaya: Penerapan Teori Esensialisme di Indonesia. *JDPP (Jurnal Dimensi Pendidikan dan Pembelajaran),* 06(02), 74-82.

Hudojo, H. (2003). *Pengembangan Kurikulum dan Pembelajaran Matematika*. Surabaya: UM Press

Junaedi, I. & Asikin, M. (2012). Pengembangan Pembelajaran Matematika Humanistik Untuk Meningkatkan Kemahiran Matematis. *Unnes Journal of Mathematics Education Research*, 1(2), 114-120.

Koentjaraningrat. (2009). *Pengantar Ilmu Antropologi*. Jakarta: Rineka Cipta

Massarwe, K., Verner, I., Bshouty, D., & Verner, I. (2010). An ethnomathematics exercise in analyzing and constructing ornaments in a geometry class. *Journal of Mathematics and Culture*, 5(1), 1-20.

Nelawati, N., Meriyati, M., Putra, R. W. Y. & Simatupang, A. T., (2018). Pengembangan Bahan Ajar Bercirikan Etnomatematika Suku Komering Materi Bangun Datar Siswa Sekolah Dasar. *Prosiding Seminar Nasional matematika dan Pendidikan Matematika*, 01(02), 407-414.

Pramudita, K., & Rosnawati, R. (2019, March). Exploration of Javanese culture ethnomathematics based on geometry perspective. In *Journal of Physics: Conference Series* (Vol. 1200, No. 1, p. 012002). IOP Publishing.

Prasasty, N. and Utaminingtyas, S., (2020). Penerapan Model Discovery Learning Pada Pembelajaran Matematika Siswa Sekolah Dasar. Jurnal Riset Pendidikan Dasar (JRPD), 1(1), 57-64

Pusat Penilaian Pendidikan Balitbang Kemendikbud. 2019. *Pendidikan di Indonesia Belajar Dari Hasil PISA*. Jakarta: Kemendikbud

Putri, D. K., Sulianto, J., & Azizah, M. (2019). Kemampuan Penalaran Matematis Ditinjau dari Kemampuan Pemecahan Masalah. *International Journal of Elementary Education*, 3(3), 351-357.

Rahmawati, Y., & Muchlian, M. (2019). Eksplorasi etnomatematika rumah gadang minangkabau Sumatera Barat. *Jurnal Analisa*, 5(2), 123-136.

Ramadhani, Y. G., & Dewi, N. R. (2022, February). Kajian Teori: Pengembangan Bahan Ajar Berbasis Etnomatematika untuk Meningkatkan Kemampuan Penalaran Siswa Kelas VIII Materi SPLDV dengan Model Pembelajaran Auditory, Intellectually, Repitition (AIR). In *PRISMA, Prosiding Seminar Nasional Matematika* (Vol. 5, pp. 500-506).

Sartika, I. & Makmur, A., (2020). Pengembangan Modul Pembelajaran Matematika Berbasis Etnomatematika Menggunakan Metode Discovery. *PeTeka (Jurnal Penelitian Tindakan Kelas dan Pengembangan Pembelajaran*, 03(02), 122-126.

Siniguian, M. T. (2017). Students difficulty in solving mathematical problems. *International Journal of Advanced Research in Engineering and Applied Sciences*, 6(2), 1-12.

Suherman, et al. (2003). *Strategi Pembelajaran Matematika Kontemporer*. Bandung: JICA

Suwito, A., & Trapsilasiwi, D. (2016). Pengembangan model pembelajaran matematika SMP kelas VII berbasis kehidupan masyarakat JAWARA (Jawa dan Madura) di Kabupaten Jember. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, 4(2), 79-84.

Thiagarajan S, Semmel DS & Semmel MI. (1974). *Instructional Development for Training Teachers of Exceptional Children: a Sourcebook*. Bloomington: Indiana University

Wulandari, H. U., Aminah, R., Laviona, Z., & Ardiansyah, A. S. (2022). Development of Elementary Triangle and Quadrilateral Mini Book based on the Ethnomathematics of Candi Gedong Songo. *International Journal of Advanced Mathematics Education*, 3(3).

Zevenbergen, R., S. Dole & R. J. Wright. (2004). *Teaching Mathematics in Primary Schools*. New South Wales: National Library of Australia